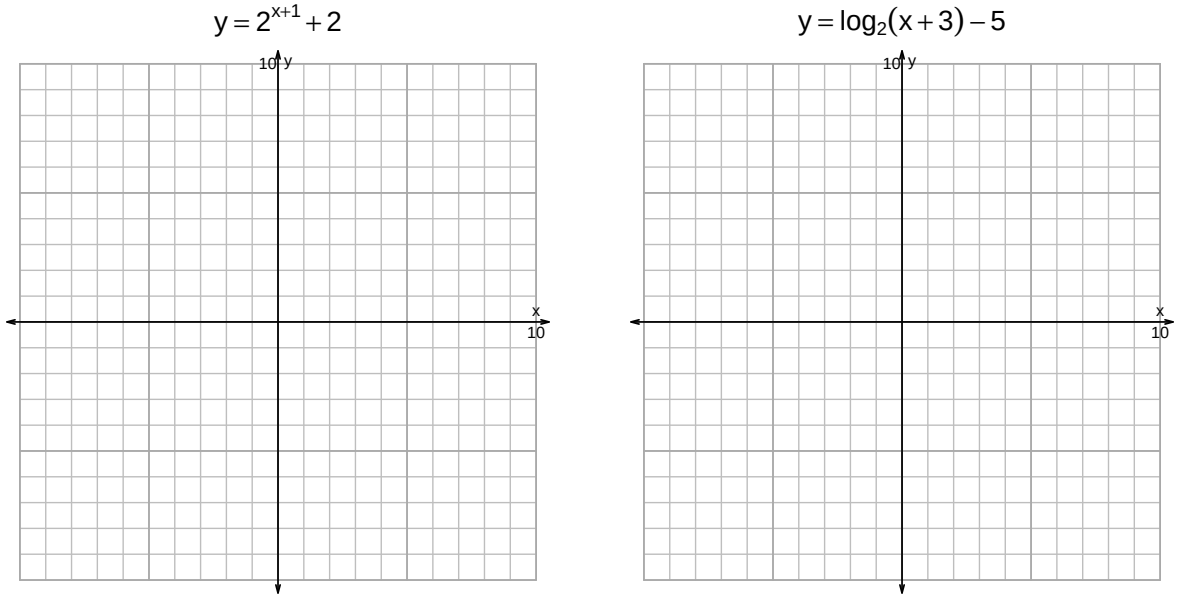
Name: Date:

s18: EXP LOG (QUIZ v363)

1. (10 pts) Graph $y = 2^{x+1} + 2$ and $y = \log_2(x+3) - 5$ on the grids below. Also, draw any asymptotes with dashed lines.

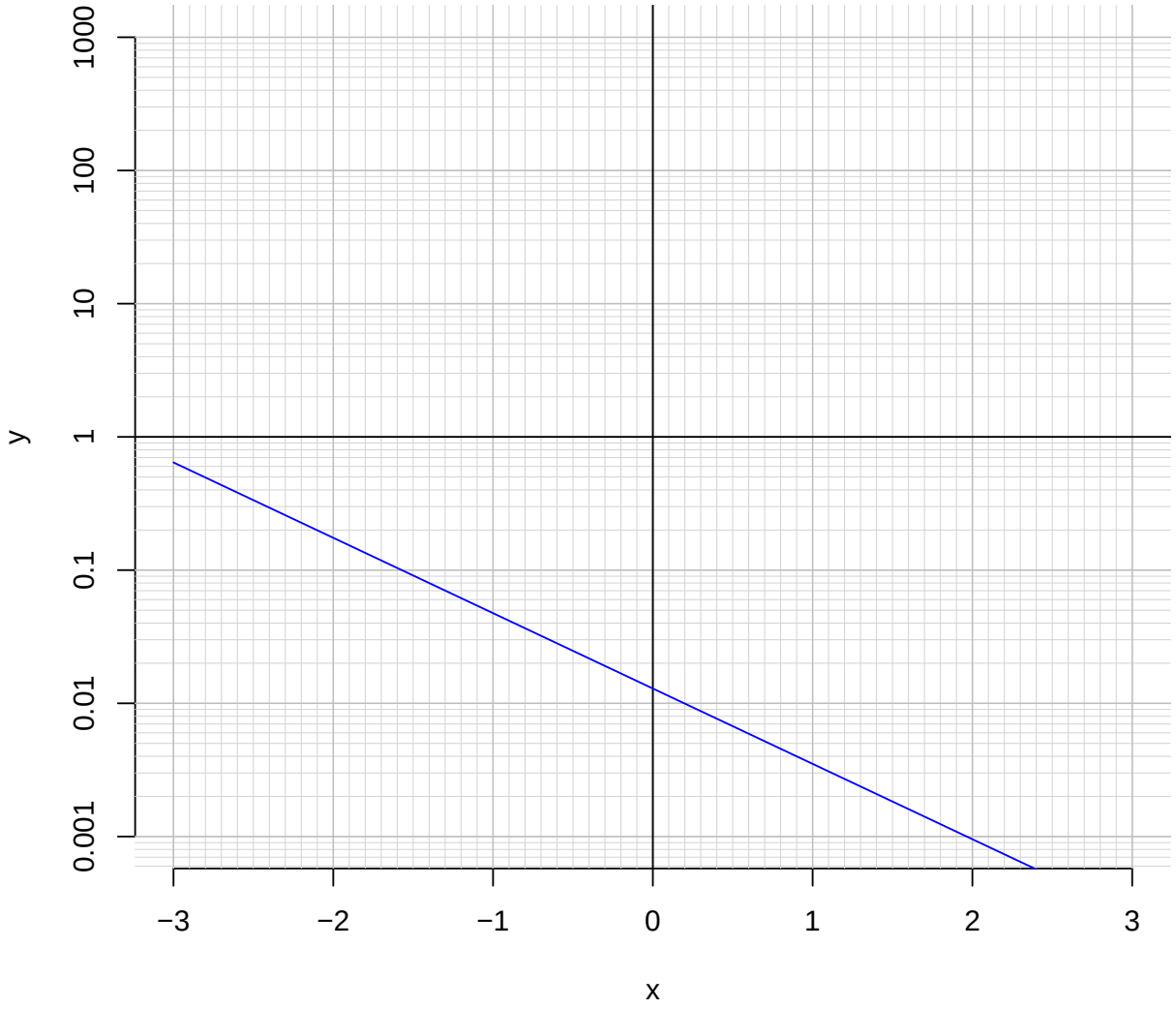


Somewhat useful hint: $2^3 = 8$*, and thus* $\log_2(8) = 3$.

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$-19 = \left(\frac{-5}{7}\right) \cdot 10^{-3t/4}$$

3. (10 pts) An exponential function $f(x) = 0.0129 \cdot e^{-1.3x}$ is graphed below on a semi-log plot.



a. Using the plot above, evaluate $f(-1.4)$.

b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{-1}{1.3} \cdot \ln\left(\frac{x}{0.0129}\right)$$

Using the plot above, evaluate $f^{-1}(0.004)$.